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THE EXPLOITATION OF THEORIES OF VALUE IN THE DISCUSSION OF THE STANDARD OF DEFERRED PAYMENTS.

A development in one part of a science necessitates a readjustment of the other parts. Unsolved difficulties appear in a new light when approached from a different side. In the enthusiasm of a discovery or of a newly embraced doctrine we may easily be led to overestimate its range and bearing, though it imparts a new vigor to relaxed energies, and a new impulse to scientific investigation. The effort to exploit the newer theory of value in the contemporaneous bimetallic controversy has caused to be consciously and definitely subjected to examination something which seems to have been generally either assumed or ignored, namely, the fundamental principle according to which the equality of values at different moments of time should be determined, it being assumed that just payment consists in such equality.*

It is our purpose to examine briefly the various principles suggested, more particularly that growing out of the application of the newer theory of value to this question. The conclusions here presented were reached in an attempt to appraise the results of a discussion of this subject which appeared some time ago in the ANNALS of the American Academy.†

In order to have a definiteness that debars misunderstanding contracts for the future must be expressed in terms of concrete things or acts, which may at the end of the period stand in a different relation to other goods, to productive

* See note, p. 67.

† "The Standard of Deferred Payments," by Professor E. A. Ross, Vol. III, p. 293, November, 1892; "Theory of Final Utility in Relation to the Standard of Deferred Payments," by Dr. Lucius S. Merriam (the brilliant and promising young economist whose tragical death occurred in November, 1893, at Cornell University), Vol. III, p. 483, January, 1893; "Total Utility Standard of Deferred Payments," by Professor E. A. Ross, Vol. IV, p. 425, November, 1893.

forces or to human wants. Hence there are various answers to the practical question: What should be the standard of deferred payments? We can classify the most important as the commodity or total utility standard, the per capita population standard, the labor standard, the marginal utility standard of the feeling or satisfaction type, and the final disutility standard.

The *commodity standard* requires simply the repayment of the same quantity of certain goods as was purchasable at the time of the loan. It is now rarely used in more than one form, but that is used very extensively, namely, that of a single commodity, gold or silver, to the value of which the standard monetary unit and all other legal tender money of the same nominal value is usually made to conform very closely. It is a trite statement that it is not money, but control over capital that is loaned, that gold or silver may make no part of the goods desired by the borrower, and obtained by him with the general purchasing power. Repayment should consist, therefore, by the consistent commodity standard, in the return of an equal sum of the commodities thus loaned. But the borrower selects a very different set of goods from that which the lender will desire when the loan is repaid. The set of goods whose enjoyment the lender foregoes when he parts with the money may in the meantime undergo great changes, many goods entering which before made no part thereof. The differences which result are as numerous as the individuals concerned, and more so, because of the varying moods of those individuals. Practically therefore the only possibility is an average or typical budget of expenditure which must serve as standard for all men, but which realizes very imperfectly the ideal.

Indeed the commodity standard can hardly be said to profess to restore "equal values" with anything approaching exactitude. Yet it does not follow that a commodity standard in a rapidly advancing state of the arts involves

necessarily the return of less value, by whatever standard that value be measured. If the budget chosen as norm contain a large proportion of articles which, because of advancing industry, are falling in relative value, the creditor will receive in repayment a sum of goods which will purchase far less of the goods he probably desires than when the loan was made. But the opposite result might be secured by the choice of a different set of goods as norm. It might seem that by the selection of non-producible or less easily producible goods the same value would be returned, the other goods having fallen in value because of ease of production, whereas these goods have only relatively, not absolutely risen. This is, however, an almost self-evident error which will be more clearly seen in considering the nature of wants.

It is evident that there are grave difficulties in the statement that the commodity standard would seek to have "the price level remain the same and the relation of money to goods be undisturbed."* The relation of money to many kinds of goods is sure to be disturbed if it is kept unchanged as to other goods. Which set therefore shall it be? We shall see whether the theories of value aid in resolving the grave practical difficulties here presented.

Something which is essentially the commodity standard has been advocated on the ground not indeed that it returns equal values, but that it returns the same "objective" or "*total utility*."† This is a return to the idea that the utility of an object is something inherent in it and remains the same under all circumstances. It is the crudest form of the commodity standard, although its champion somewhat inconsistently departs far enough from it to admit a slight change in objective utilities owing to the change in the degree of social esteem which is secured by goods at different periods. It is utterly impossible to estimate or express mathematically the total utility of a sum of goods of different kinds. The total

* ROSS, ANNALS, Nov., 1893, Vol. IV, p. 427.

† ROSS, ANNALS, Nov., 1892, and Nov., 1893.

utility if expressed however in ordinary language gives the curious result that there may be numerous goods the total utility of each of which to a being loving life, is infinite. If a debtor could manage to return the first increment of any one of these goods, any debt would be discharged. But it is impossible under normal circumstances to pay total utilities. Unless the payee be naked and starving the sum of goods repaid represents only a utility upon the margin of his consumption list, which may vary greatly at different periods and under different circumstances. Overlooking these facts the proposed standard assumes that when goods that are already possessed in good quantity by the creditor are returned, each unit possesses all the varying grades of utility from infinity to nothing.

A diagram intended to illustrate the total utility of all goods and not merely of a single good seems therefore to have no particular meaning for the question of deferred payments. If all goods are included then there is implied the possession of an absolute standard independent of them. The total utility of a single good we have no means of expressing, we can express only the utility of the marginal increment in terms of another good at a given time and place. *A fortiori* we cannot express the total utility of all goods together, for we then have no unit left in which they can be expressed.

In the standards now to be considered there is a more distinct reference than in the foregoing to an ulterior regulator which shall make the unchangeableness of values possible.

The per capita population standard as advocated by the greenback party has at least a curious interest. It was proposed that the amount of currency found in circulation at the close of the war be restored and made "the permanent and unfluctuating measure of all values through all coming time, never to be increased or diminished only as *per capita* with the increase of the inhabitants of our

country."* It is implied that this currency would furnish "a unit of value" almost if not quite "invariable" which "should have the same purchasing power" therefore at all times. It is sufficient to remark that changing methods of exchange could affect the price-scale so that all things might be higher or lower in terms of this money though their relative position remained unchanged. This relative change would also take place and introduce many of the difficulties discussed under the commodity standard. Despite serious objections which can be made to this plan it will scarcely be maintained that the probable variations under this standard would be greater than with the gold standard in the last fifty years

The labor standard of deferred payments is a logical consequence of the labor theory of value, but suffers from the same infirmities as that theory. Though it is now seen that the value of the labor of different individuals is only commensurable through the value of its products, that labor itself demands a standard of value instead of furnishing it, yet it might seem that the labor of special and large classes might furnish a measure independent of goods which could well serve as the standard of deferred payments. Let us however see what the practical difficulties are in the way of returning equal values at a later period by this means.

And first, should the labor of the creditor or that of the debtor be taken as norm? The standard of deferred payments must be a general one, whereas the choice of either of these classes or any class assumes that all goods are reproducible and by all persons. On the contrary some are not reproducible at all, others by only a few men, yet any or all may make part of the list of valuable things desired. Suppose a list which is made up of all things in the proportion that society consumes them. Then for that portion of the list which has been most affected by industrial advance the debtor producer would experience no lightening of his

* Peter Cooper's Address at Indianapolis May 17, 1876.

burden since he must give the same labor-time as before; whereas the other goods would involve an actual increase of the labor-time necessary to repay, in the degree that they were of a higher class than those which the debtor produced. The practical problem becomes more complex in view of the fact that the difficulty of repayment varies greatly among individuals not only with the efficiency of their labor, but according to their participation in rents, interests and profits. It is evident that this suggested standard offers nothing approximating a practical solution of the problem of returning equal values at a later time.

The acceptance of utility as the sole measure of value leads to the thought that in the newer theory where value is determined by the multiplication of the number of units by *the marginal utility*, is to be found the key to the solution of this problem of the standard of deferred payments.

Preliminary to the examination of this opinion let us consider the fluctuation of want-intensity and the form of notation or expression of utilities, as views on these points seem to have largely influenced the judgment on the main question.

Among the other limitations to human faculties is the inability to measure states of feeling with exactness. The experiments in physiological-psychology which appear to do so deal only with materialized manifestations. The hopes entertained early in the century of a mathematical psychology went to pieces on this rock. The psychical phenomena of wants and satisfactions, and the corresponding utilities of objects can be measured or expressed only in terms of each other at a given moment. It is often assumed that the order of satisfaction of wants by a person indicates unerringly that the goods employed later satisfy less intense wants than those employed earlier. This attempts to measure the intensity of a want or satisfaction by the scale of another time and other circumstances. Not until the old wants are in a great degree satisfied do the others receive

attention and satisfaction, but then all the soul-energies may be thrown into their satisfying. Desire may be as intense and satisfaction as great as the nature has ever experienced. The sated appetites and ennui of the worldly rich at times would seem to indicate that abundance reduces to zero the marginal utilities of all things. But the torpid savage in his squalor, or the village loafer in his needy content show that the essential thing here is not an absolute abundance but a relative abundance offered to narrow natures. The change in the scale of marginal utilities consists not only in the falling of some but in the absolute as well as relative rising of others as well as the appearance of new wants made possible by the greater degrees of satisfaction of those formerly more pressing. The degree of this rise cannot be exactly measured but the fact appears from certain psychological considerations. The scope of pressing wants is, like the scope of the consciousness and the attention, a limited one. In fact there is here more than analogy, there is fundamental connection, for a want in the economic sense is a psychological phenomenon and wants do not exist outside of consciousness. As the wants which are related to physical well-being retire from the point of clearest vision and become dimmer at the edge of the field of attention, other wants move toward the centre of the field and on them is concentrated the intensity of desire. This intensity may be even greater than in the case of those relating to the physical well-being.*

The foregoing has its application to the question whether there can be a general fall of values or marginal utilities. We should make clear to ourselves in what sense we wish to understand the word "can" in the question. If we mean simply to ask whether such a general fall measured by an absolute standard is abstractly conceivable, the reply must be, yes; for as the height of the marginal utility is determined by the degree of the want to which it corresponds,

* What is here stated is in essential accord with a passage quoted approvingly by Jevons ("The Theory of Political Economy," second edition, 1879, p. 46).

we can conceive all wants to disappear (as for instance by the annihilation of humanity upon the globe) and thus abstractly think out of the world all marginal utilities. A less extreme case where a general fall of marginal utilities might occur is a crisis so general and disastrous that in the discouragement and depression of mind all goods would answer to milder wants. Yet this is scarcely conceivable, since the most marked phenomenon of a panic is the intensity of the desire for money, which becomes the focus of all other wants and which therefore acquires a much greater marginal utility than usual. As usually put the implied condition, however, in the question is, "as a result of industrial advance,"* and an affirmative answer to the question in this form implies two false assumptions, first that human nature is equipped with a limited number of surfeitable wants, and second that all goods can be affected by increased productivity. What is the fact? Ten new wants seem to spring up where one is satisfied. Upon their absolute intensity we cannot pronounce, for in their turn they are all-absorbing. Even if equipped with an absolute standard of value we should find the marginal utilities of all the reproducible articles diminishing at such a rate that total values decreased, how would the very numerous class of non-reproducible articles be affected? Their marginal utilities, far from diminishing, would greatly increase, but so long as they simply did not diminish, a general (that is, universal), fall of marginal utilities could not occur. The only possibility of such a fall even when measured by the absolute standard would be that it should come not from the side of production but from that of wants, in that as old ones were supplied no new ones arose, and at the same time the wants supplied by the non-reproducible goods *sank in intensity*.

In the foregoing we assert the abstract and extreme

* Merriam, ANNALS, Jan., 1893, p. 94. "Such has become the command of man over nature that wants both new and old are, compared with past provision, abundantly met. If goods at last become as plentiful as air and water value will vanish entirely."

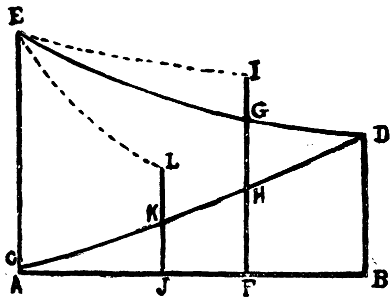
possibility of a general fall of marginal utilities as measured by an absolute standard. But one is prone to overlook the fact that no such standard is at our command. The only way of giving quantitative expression to marginal utilities which we have is to express them in terms of each other and hence any general fall of such mathematically expressed forms of marginal utilities as are accessible to us is thereby made impossible. The so-called paradox of value therefore which shows that total utility continues to increase with an increasing number of units of a good, while total value many decrease because of a sinking marginal utility, may apply to one or several kinds of goods, but cannot apply at the same time to all goods. Some are strictly limited, others affected in varying degrees by improvements, so that if the marginal utilities of two goods are expressed in terms of each other, as one becomes zero the other becomes infinite. It is the haunting spectre of the absolute standard of value that leads to the erroneous thought that the newer theory of value has changed the truth of the old maxim, "There can be no general rise or fall of values," or its newer form, "There can be no general fall of marginal utilities," when once they have left the spirit land of feeling and have been materialized in forms that are commensurable. Though the interpretation of the maxim has changed, we have not yet emancipated consciousness from its habiliments of flesh. So far from its being characteristic of the new theory *not* to measure things in terms of each other it is essential to it that in determining market values there be a comparison of things, and that of attainable and possible things. A demand exists only when something can be offered in exchange, and as to subjective valuations only those aid in determining objective values where the want-satisfying power of something disposable is compared with that of something else either in or out of the possession of the subject.

We now come to the relation of this theory to the standard of deferred payments. It seems at first glance to give a

simple and conclusive answer. For this theory points out just what value is, so that the return of equal value requires the return of a larger quantity of goods as their marginal utility sinks or the return of other goods with greater marginal utilities. What measures the marginal utilities? If one gives the answer obvious and logically required by the theory: the intensity of the desire which the creditor will satisfy with the goods, and this be measured by an absolute standard and not simply in relation to other goods, preposterous consequences are involved in its application to deferred payments. The individual's wealth would rise and fall with his changing moods from elation to melancholy, the spread of a pessimistic philosophy would be as destructive to values as the onward sweep of a prairie fire, and the repayment of the smallest sum to a man disgusted with the world and about to depart it by his own hand might be a task which would bankrupt the money kings and leave the debt still untouched and undiminished. To compare the marginal utilities at different periods of the goods enjoyed or possessed by even a single individual except in terms of the same article for whose stability in value, however, we have no guarantee, is an impossibility. Much less can we compare by the satisfaction standard the value of the community's goods in any other way than the one mentioned. Not until the unit of happiness or utility is materialized and is applicable to the measurement of the want-satisfying power of goods to different persons as well as to the same one at different times, could the marginal utility theory of value aid in the question of the standard of deferred payments.

We have said that in the return of equal values or equal marginal utilities by the newer theory, the intensity of the want satisfied would logically be the standard by which the utility should be measured. This has not always been the judgment on the matter. An effort has been made to attain by abstract reasoning to an ultimate standard of

value found in the final disutility of production* (that is, to society) and the results have been applied to the question in hand by one accepting their validity.† This application is of course futile if the theory on which it is based is erroneous. We do not here attempt to show, as seems possible, that this unit, which is admittedly an intangible abstraction,‡ is attained by reasoning which is open to serious objections, nor moreover that it does not adequately cover the factors it professes to explain. The point which now concerns us is that one accepting it should be deceived into the belief that it furnished a means for determining, even abstractly,



whether the debtor repaid "to the creditor a value equal to the value received" as was deemed to be demanded by justice.§

It is rightly contended by the advocates of this standard that measuring values by the final disutility of production does not require the repayment of the products of equal labor-time, as does the labor standard, for in advancing society the disutility of production might equal earlier in the day the utility of it. But neither does it involve, as is assumed, the return of equal values (that is, social values, overlooking

* J. B. Clark, in *Yale Review*, November, 1892.

† Merriam, ANNALS, January, 1893.

‡ "The ultimate unit of value [is, in fact, chimerical.] . . . Sound reasoning is not invalidated because there is no immediate prospect of testing the truth of its conclusions by inductive proof." *Ibid.*, p. 96.

§ *Ibid.*, p. 99.

individual variations which complicate still further the problem) as measured by the degree of satisfaction secured. The diagram represents as it were a side elevation of society according to this mode of conceiving of it. This method of illustration has become so familiar that it is scarcely necessary to explain that AB represents the duration of the working day, ED the utility curve, CD the sacrifice curve, DB the perpendicular dropped from D their point of intersection, represents the utility and the disutility of production, which are equal at this point. In the diagram employed by the father of the notion that the final disutility to society of the last period of labor is the ultimate unit of value, that unit is somewhat oddly represented by a vertical plane, not by a line. If therefore it be considered that the line BD, as also the other perpendiculars JL, FG, and FI respectively, represent the ends of plane surfaces the correspondence to the original diagram will be quite exact, and the following conclusions will be valid for planes as well as for lines. Suppose the working day to stop at F, the utility curve remaining unchanged. Then the disutility line would be FG, which to use the same terminology as the author cited, is made up of the direct final disutility or pain of labor FH, and the indirect disutility, HG, of being kept from the enjoyment of the goods already at command. The line which measures final utility therefore, FG, is greater than BD and would if used as unit involve the return of greater value. Moreover the utility curve may have changed meantime. Suppose it to have risen, for though each hour of the day is more productive than before, yet the wants supplied the last hour of this shorter working day are not necessarily as we have seen, less intense than before. Then final disutility would be the line FI made up of positive or direct disutility FH, and negative or indirect disutility HI. Values would now be measured by FI, a standard considerably greater than BD. Repayment by this standard would require the return of greater values. Again, suppose the

productivity of society to still further increase. Even with so short a working day as AJ, the goods produced might be so plentiful that the final utility of the last increment of labor might be only JL, made up of the very small amount of direct disutility JK, and the larger amount of indirect KL. The marginal utility, from which as standard, values would now be measured would be less than before, and repayment by this standard would return less value.

It appears therefore that even if "the pain suffered by society as a whole in the final periods of daily labor" be taken as "the ultimate unit of value" at any given moment, yet it is a standard which may vary greatly at different moments. It has been recognized* that the direct disutility of labor would decrease with shorter working hours, while it was tacitly assumed that, together with the indirect disutility, it always made the standard of value of the same length. This is evidently by no means the case. The marginal utility (and consequently the values) which would be returned by this standard would not necessarily be equal to those borrowed at a former time. They might be either greater or less, but would be simply a marginal utility which is equal to the disutility of farther production at the same moment. That is the only equality involved. Between the final utilities, as between the final disutilities of different periods, there is no necessary correspondence. It is somewhat astonishing therefore that this standard should have been suggested by an upholder of the marginal utility theory of value as fitted to secure the return of equal value. This can be in part explained as an inevitable result of the abandonment of the pure form of the said theory, which explains values from the side of satisfaction, for that peculiar form which seeks to explain them from the side of sacrifice.

It appears therefore that to say that repayment of values as determined by marginal utilities is the proper criterion for the standard of deferred payments, though seemingly a

*ANNALS, January, 1893, p. 103.

solution of the problem in harmony with the newer theory of value, is in reality the employment of a meaningless phrase of no aid to practical action. Marginal utilities at different periods remain, so far as our power is concerned, incommensurable quantities.

The foregoing reasoning leads to the conclusion that if, as has been said,* "all parties are agreed that (just) repayment consists in the return of equal values," then a perfect standard of deferred payments is an impossibility, as the first requisite is lacking. To measure the value of things, even to a single person, we have no adequate standard independent of goods, either in labor or sacrifice, in happiness or in want-satisfying power, and a standard of deferred payments must be the same for millions of individuals, whose happiness induced by economic goods differs in degree, whose labor differs in the most manifold manner as to efficiency and quality. Armed therefore with any or all the theories of value one could still not give an answer to the question—How can the standard of deferred payments be so arranged as to cause the return of equal value? The older and inaccurate theories are of course inaccurate here. Granting the entire correctness of the newer theory, the conclusion here reached is entirely skeptical as to its throwing any special light upon the difficult practical question of deferred payments. Still we must not ignore the fact that a better understanding of the nature of value was indispensable to an appreciation of what the real difficulties of the question were. We can, however, assert with confidence, that this question has not received and is not likely to receive a positive answer from pure economic theory.

It may be well again to recall the fact that the question under discussion originated as a phase of the very concrete and practical bimetallic controversy. The immediate purpose of this paper is accomplished if there has been emphasized the truth that the answer is not found in a formula

* ROSS, ANNALS, November, 1892, p. 41; Merriam, ANNALS, January, 1893, p. 100.

which it is admitted can have no practical application to the world we live in. No one of the various methods suggested of attaining a just standard of deferred payments by returning equal values at a later time can lead to the result. There naturally occurs therefore the still more fundamental query—Even if the impossible could be attained, is it self-evident that the return of equal values would constitute just repayment? What is the standard and criterion of justice in this matter?

To answer this question, which the foregoing discussion, so far as it is deemed valid, must seem to render more than ever a riddle, lies beyond the purpose of this paper. It may not, however, be amiss to indicate the direction in which it seems probable that the answer must be sought. A standard of deferred payments which shall never work hardship to any individual must be recognized as unattainable. The most just and most nearly ideal standard to which society can remotely hope to attain is one where, consistent with the minimum of discouragement to both debtor and creditor because of the terms of the contract, the greatest available foresight is employed to ensure that the benefits of industrial advance shall on the whole go to those classes in whose encouragement and economic growth society has the greatest interest.

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